Jeongwan **Shin**

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Research Interests

Jeongwan is a researcher in the field of Natural Language Processing (NLP), with a focus on machine learning, natural language processing, abstractive summarization, fact correction and Large Language Model (LLM). He is currently pursuing the Ph.D. candidate in computer science and engineering. He is currently interested in forming an LLM-based ecosystem.

Education

Ph.D. candidate | *Computer Science and Engineering*   2018-2025
- KYUNGPOOK NATIONAL UNIVERSITY   Deagu, South Korea
- Advisor: Seyoung Park, Hyeyoung Park

M.S. | *Computer Science and Engineering*   2015-2018
- KYUNGPOOK NATIONAL UNIVERSITY   Deagu, South Korea
- Advisor: Seyoung Park

Experience

KAIST Hangul Engineering Research Lab   Mar 2013 - Feb 2014
Internship   Deajeon, South Korea
- Development of Hangul-based Universal Phonetic System.
- Developing keyboard applications for iPhone and Android.
- Technology integration and call process development.

Publications

Internationa journal
- **Freehal: A Framework for Editing Large Language Model Hallucinations**
  Jinhyeong Lim, **Jeongwan Shin**, Yonghwan Lee, Hyun-Je Song
  under review at Knowledge-Based Systems, 2024.
  Available at SSRN: `https://ssrn.com/abstract=4893610` or `http://dx.doi.org/10.2139/ssrn.4893610`
- **Factuality Guided Diffusion-based Abstractive Summarization**
  Jeongwan Shin, Hyeyoung Park, Hyun-Je Song
  IEEE Access, Vol. 12, pp. 139302 - 139315, 2024. (SCIE)
  `https://doi.org/10.1109/ACCESS.2024.3467063`
- **Token-Level Fact Correction in Abstractive Summarization**
  Jeongwan Shin, Seong-Bae Park, Hyun-Je Song
  IEEE Access, Vol. 11, pp. 1934 - 1943, 2023. (SCIE)
  `https://doi.org/10.1109/ACCESS.2022.3233854`

Domestic publications
- **Solving Factual Inconsistency in Abstractive Summarization using Named Entity Fact Discrimination**
  Jeongwan Shin, Yunseok Noh, Hyun-Je Song, Seyoung Park
  Korean Institute of Information Scientists and Engineers, vol.49, no.3, pp. 231-240, 2022.

Domestic conference
- **Atomic Unit-based Post Editing for Hallucination Reduction**
  Yonghwan Lee, **Jeongwan Shin**, Hyun-Je Song
  The 35th Annual Conference on Human Cognitive Language Technology, 2023.
- **Multi-view Spectral Clustering for news articles**
  Sang-Seok Park, **Jeongwan Shin**, Seyoung Park, Seong-Bwa Park
  Korean Institute of Information Scientists and Engineers, Korea Computer Congress 2018
- **Generating Multi-Class Images Using a Generative Adversarial Network**
  Jeongwan Shin, Yunseok Noh, Se-young Park
  Korean Institute of Information Scientists and Engineers, Korea Computer Congress 2017
- **Neural Conversational Model for Specific Domain**
  Sujeong Choi, **Jeongwan Shin**, Ian Jung, Se-Young Park, Seong-Bae Park
  Korean Institute of Information Scientists and Engineers, Korea Software Congress 2017
- **Pattern Filtering for Knowledge Extraction Using Facts from Web**
  Sol Kim, **JungWan Shin**, Se-Young Park, Sang-Jo Lee
  Korean Institute of Information Scientists and Engineers. 2015

Projects

Fact Correction Model for Honest Summary   2023-2024
- Research and Development of Token-Level Fact Modification Model for Abstract Summary

Smart Summary Report Generation from Big Data Related to a Topic 2021
- Development of a hallucination detection and correction model

Development of QA systems for Video Story Understanding to pass the Video Turing Test 2018
- Improving natural language reading performance using extended RNN models

WiseKB: Big data based self-evolving knowledge base and reasoning platform 2018
- Development of an encoder-decoder model based on recurrent neural networks applicable to sequence-to-sequence tasks
- RNN-based Named Entity Recognizer Using Recursive Neural Networks

Developments of Visual Communication Platform and Authoring Tool for Emotional Expression 2013-2014
- Development of Hangul-based Universal Phonetic System.
- Developing keyboard applications for iPhone and Android.
- Technology integration and call process development.

Invited Talk

Table structure data correction 2024
- PLACE: Jeonbuk National University

Diffusion Model for Text Generation 2023
- PLACE: Kyung Hee University

Token-Level Fact Correction in Abstractive Summarization 2023
- PLACE: Jeonbuk National University

Skills

Programming Python, Java, C++

Machine Learning Deep Learning Pytorch, Pytorch lightning

GPU server Build Management Linux configuration and engineering, NAS, Docker

Natural Language Processing Language Generation, In-context learning, Summarization, Text-Diffusion generation

Language Skills Korean, English